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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/673,111
Filing Date: September 26, 2003
Appellant(s): TOYAMA ET AL.

Scott A. Felder
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 02/29/2008 appealing from the Office action mailed 10/06/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

NEW GROUND(S) OF REJECTION

The following new ground(s) of rejection have been applied to the appealed claims 26 – 30.

Claims 26 – 30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,370,476	MCBRIDE	4-2002
5,647,058	AGRAWAL	7-1997
6,603,885	ENOMOTO	4-1999
6,333,924	PORCELLI	12-2001
EP 838 764 A2	NA	10-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

NEW GROUND(S) OF REJECTION

The following new ground(s) of rejection have been applied to the appealed claims 26 – 30. Claims 26 – 30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 26 – 30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 26 fails to be limited to embodiments which fall within a statutory category. Specifically, the claim recites a "computer-readable medium..." which does not appear to be a process, machine, manufacture, or composition of matter (See specification page. 8, lines 24 – 31, "communication media...", and page 9, lines 1 – 16) See, e.g., In re Nuitjen, Docket no. 2006-1371 (Fed. Cir. Sept. 20, 2007)(slip. op. at 18)("A transitory, propagating signal like Nuitjen's is not a process, machine, manufacture, or composition of matter.' ... Thus, such a signal cannot be patentable subject matter.").

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 – 6, 14 – 18, 21 – 22, 26 – 27, and 29 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002) in view of Agrawal et al. (Agrawal hereinafter) (US Patent No. 5,647,058, issued: July 8, 1997).

Regarding Claim 1, McBride discloses a computer-implemented process for combining a precision estimate of a database entry's coordinate value with the coordinate value into a single index, comprising the process actions of:

inputting one or more location entities (Col. 3 and 9, lines 23 – 26 and 43 – 46; respectively, McBride); and

computing a one dimensional grid index series (Col. 8, lines 38 – 41, two-dimensional, McBride) wherein each location entity is represented as a series of grids

that incorporate the location of each location entity (Col. 4, lines 32 – 33 and 40 – 44, the grid point index, McBride).

Furthermore, McBride discloses storing information in memory (Col. 9, lines 29 – 32, McBride). However, McBride is silent with respect to a database. On the other hand, Agrawal discloses a database management system including: outputting said index series to a database (Col. 5, lines 38 – 41 and 49 – 50, Agrawal). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Agrawal's teachings to the system of McBride. Skilled artisan would have been motivated to do so, as suggested by Agrawal (Col. 4, lines 1 – 4, Agrawal), to provide a method for high dimensional indexing which guarantees completeness, and which reduces the propensity for false positives, thus being efficient. In addition, both of the references (McBride and Agrawal) teach features that are directed to analogous art and they are directed to the same field of endeavor of database management system, such as, indexing, searching, and querying indexed databases. This relation between both of the references highly suggests an expectation of success.

Regarding Claim 2, the combination of McBride in view of Agrawal discloses a computer – implemented process wherein the grid index series is constructed from a number of grid indices overlaid on the same space with the grid units of different sizes (Col. 4, lines 38 – 44, "... Allowing the quantities q*m*, c*x,m*, c*y,m* and c*x,m* to vary with the grid point index m allows **different weights or sensitivities to be assigned to different grid points**, depending upon the location of such point", McBride) and

wherein the size of each grid is related to the precision of the coordinate values of a database entry (Col. 4, lines 45 – 53, "assigned to different grid points, **depending upon the location** of such point ... The **criterion used for "closeness" between a grid point pm,G and a survey control point psc-n** may be the conventional ... For each nearest control survey point ...", McBride; and Col. 5, lines 38 – 41 and 49 – 50, Agrawal).

Regarding Claim 3, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein a location entity is a point (Col. 9, lines 29 – 32, McBride).

Regarding Claim 4, the combination of McBride in view of Agrawal discloses a computer-implemented process of claim 1 wherein a location entity is an area (Col. 3, lines 38 – 41, McBride[1]).

Regarding Claim 5, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein said area is defined by a center latitude and longitude (Col. 2, lines 41 – 44, latitude and longitude, McBride) and a width (Col. 5, lines 34 – 37, McBride[2]) and a height (Col. 2, lines 41 – 44, height, McBride), each

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[1] Wherein examiner interprets the region as the area claimed.
[2] Wherein examiner interprets that rectangular coordinates imply the use of width claimed.

measured from the center latitude and longitude and along lines of latitude and longitude (Col. 4, lines 22 – 24, McBride).

Regarding Claim 6, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein equirectangular projection is used to input latitude and longitude values of said one or more location entities as x-y pairs on a Euclidean coordinate system (Col. 4 and 5, lines 1 – 4 and 34 – 37; respectively, McBride).

Regarding Claim 14, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein the location entity is geographic location data (Col. 3, lines 34 – 41, survey location, McBride).

Regarding Claim 15, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein the location entity is described in terms of latitude and longitude (Col. 2, lines 41 – 44, McBride).

Regarding Claim 16, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein the latitude and longitude values are taken as straight x-y pairs on a Euclidean coordinate system (Col. 4, lines 7 – 10, McBride).

Regarding Claim 17, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein the location entity is described in terms of latitude, longitude and altitude (Col. 2, lines 41 – 44, latitude, longitude, and height, McBride).

Regarding Claim 18, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein the latitude, longitude and altitude values are taken as (x,y,z) pairs on a Euclidean coordinate system (Col. 4, lines 6 – 10, location coordinates ($X_{m,G}$, $Y_{m,G}$, $Z_{m,G}$), McBride).

Regarding Claim 21, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein the database comprises a location entity identifier (Col. 3, lines 62 – 64, survey control points, McBride; and Col. 5, lines 43 – 46, "entries", "coefficients", "component", Agrawal) and a scale index for one or more scales each corresponding to a different grid (Col. 4, lines 42 – 44, McBride; and Col. 5, lines 59 – 61, an index, Agrawal).

Regarding Claim 22, the combination of McBride in view of Agrawal discloses a computer-implemented process wherein a query of the database comprises the following process actions:

querying which location entities are in a given grid cell at a given grid scale (Col.5, lines 17 – 19, given any particular query, Agrawal);

searching in the data of the given grid scale for the values of the given grid cell (Col. 5, lines 61 – 65, Agrawal); and

returning said values of the given grid cell at the given grid scale (Col.5, lines 64 – 67, to retrieve the qualifying object, Agrawal).

Regarding Claim 26, the combination of McBride in view of Agrawal discloses a computer-readable medium having computer-executable instructions for combining a precision estimate of a database entry's coordinate value with the coordinate value into a single index, said computer executable instructions comprising:

inputting one or more location entities (Col. 3 and 9, lines 23 – 26 and 43 – 46; respectively, McBride); and

computing a one-dimensional grid index series wherein each location entity is represented as a series of grids that incorporate the location of each location entity (Col. 4, lines 32 – 33 and 40 – 44, the grid point index, McBride); and

using the grid index to perform a query of the location entities (Col. 5, lines 17 – 26, “given any particular query … similarity search …”, Agrawal) such that any query that seeks a match of a location entity at a small grid size does not seek a match of a location entity at a larger grid size than said small grid size (Col. 5 and 9, lines 61 – 67

and 61 – 65, “searching for objects similar to a given object .. to retrieve the qualifying objects…”; respectively, Agrawal[3]).

Regarding Claim 27, the combination of McBride in view of Agrawal discloses a computer-readable medium wherein the instruction computing a grid index series uses an equirectangular projection (Col. 5, lines 34 – 37, McBride).

Regarding Claim 29, the combination of McBride in view of Agrawal discloses a computer-readable medium wherein the series of grids is a hierarchical series of equilateral polygons embedded within a Platonic solid (Fig. 3 and 4, Col. 6, lines 25 – 30, McBride).

Regarding Claim 30, the combination of McBride in view of Agrawal discloses a computer-readable medium wherein the series of grids is a hierarchical series of polygons that grids the globe (Col. 6, lines 25 – 30, McBride).

Claims 7 – 8, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002) in view of Agrawal et

[3] Wherein the step of using the similarity search, including the distance “less than or equal” (Col. 9, lines 55 – 65, Agrawal) corresponds to the step of not seeking a match of a location … at a larger grid size as claimed.

al. (Agrawal hereinafter) (US Patent No. 5,647,058, issued: July 8, 1997), and further in view of Enomoto (US Patent No. 6,603,885 B1, filed: April 29, 1999).

Regarding Claims 7, the combination of McBride in view of Agrawal discloses all the limitations as disclosed above including a computer-implemented process wherein the process action of computing a grid index series comprises: gridding the globe (Col. 2 and 3, lines 27 – 32 and 37 – 38; respectively, McBride), and indexing each grid (Col. 4, lines 32 – 33 and 40 – 44, the grid point index, McBride). However, McBride is silent with respect to resolutions, and raster scan order. On the other hand, Enomoto discloses gridding at a prescribed number of resolutions (Col. 70, lines 61 – 67, Enomoto); and grids in raster scan order (Fig. 25A and 25B, Col. 64, lines 20 – 27, Enomoto). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Enomoto's teachings to the system of the combination of McBride in view of Agrawal. Skilled artisan would have been motivated to do so, as suggested by Enomoto (Col. 6, lines 35 – 39 and 53 – 57, Enomoto), to provide high-speed image processing on image data with higher degree of flexibility, and to provide more intense sharpening to image quality. In addition, the applied references (McBride, Agrawal, and Enomoto) teach features that are directed to analogous art and they are directed to the same field of endeavor, such as, image processing. This relation between the applied references highly suggests an expectation of success.

The combination of McBride in view of Agrawal and further in view or Enomoto discloses all the limitations as disclosed above including: mapping the latitude and longitude coordinates of each location entity to the index (Col. 2, lines 41 – 49, McBride[4]).

Regarding Claims 8, the combination of McBride in view of Agrawal and further in view or Enomoto discloses a computer-implemented process wherein the prescribed number of resolutions is 20 (Col. 70, lines 61 – 67, Enomoto).

Regarding Claims 28, the combination of McBride in view of Agrawal and further in view or Enomoto discloses a computer-readable medium wherein the series of grids grid the globe at twenty different resolutions (Col. 70, lines 61 – 67, Enomoto), with "square" units whose sides correspond to $20x(1/2)^r$ degrees, for 0<= r<20 (Col. 4, lines 40 – 44, different weights or sensitivities to be assigned to different grid points, McBride).

Claims 9 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002), in view of Agrawal et al. (Agrawal hereinafter) (US Patent No. 5,647,058, issued: July 8, 1997), in view of Enomoto (US Patent No. 6,603,885 B1, filed: April 29, 1999), and further in view of

[4] Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed.

Porcelli et al. (Porcelli hereinafter) (US Patent No. 6,333,924 B1, issued: December 25, 2001).

Regarding Claims 9, the combination of McBride in view of Agrawal and further in view or Enomoto discloses all the limitations as disclose above including determining the longitude, and standard deviation, where a standard deviation σ is the measurement error of a given latitude (Col. 7, lines 52 – 55, McBride), longitude coordinates (Col. 2, lines 41 – 44, latitude and longitude, McBride). However, the combination of McBride in view of Agrawal and further in view or Enomoto is silent with respect to determining the longitudinal span, D. On the other hand, Porcelli discloses determining the longitudinal span, D, in degrees (Col. 8, lines 27 – 32, Porcelli). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Porcelli's teachings to the system of the combination of McBride in view of Agrawal and further in view or Enomoto. Skilled artisan would have been motivated to do so, as suggested by Porcelli (Col. 8, lines 17 – 18 and 27 – 32, Porcelli), to calculate the true Earth centered angle at a given latitude, and further utilized this calculation to provide continuity of services in two geographical areas at opposite longitude. In addition, the applied references (McBride, Agrawal, Enomoto, and Porcelli) teach features that are directed to analogous art and they are directed to the same field of endeavor, such as, global positioning systems, and latitude and longitude measurements. This close relation between the applied references highly suggests an expectation of success.

The combination McBride in view of Agrawal in view of Enomoto and further in view of Porcelli discloses all the limitations as disclosed above including: determining the degree-scale of precision, R, to be the discrete unit of resolution just larger than D (Col. 70, lines 61 – 67, Enomoto).

Regarding Claim 10, the combination McBride in view of Agrawal in view of Enomoto and further in view of Porcelli discloses a computer-implemented process wherein the longitudinal span in degrees that 3σ meters corresponds to is $d=[180(3\sigma)\cos(\text{latitude})]/k\pi$ is determined., where k is the circumference of the earth in meters (Col. 8, lines 27 – 32, Porcelli).

Regarding Claim 11, the combination McBride in view of Agrawal in view of Enomoto and further in view of Porcelli discloses a computer-implemented process wherein the process action of determining the degree-scale of precision, R, to be the discrete unit of resolution just larger than D comprises setting $r = \lfloor \log_2 d/20 \rfloor$ (Col. 70, lines 61 – 67, Enomoto).

Regarding Claim 12, the combination McBride in view of Agrawal in view of Enomoto and further in view of Porcelli discloses a computer-implemented process

wherein the globe is gridded with overlapping grids at each scale in order to increase accuracy (Col. 3 and 4, lines 64 – 67 and 1 – 2; respectively, McBride[5]).

Regarding Claim 13, the combination McBride in view of Agrawal in view of Enomoto and further in view of Porcelli discloses a computer-implemented process wherein coordinates of location entities are mapped to the square whose center is closest (Col. 3, lines 62 – 64, McBride).

Claim 19 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002), in view of Agrawal et al. (Agrawal hereinafter) (US Patent No. 5,647,058, issued: July 8, 1997), in view of Enomoto (US Patent No. 6,603,885 B1, filed: April 29, 1999), and further in view of Na et al. (Na hereinafter) (European Patent Application EP 838 764 A2, filed: October 23, 1997).

Regarding Claims 19, the combination of McBride in view of Agrawal and further in view of Enomoto discloses a computer-implemented process wherein the location entity's coordinates in latitude (lat) and longitude (long) is mapped to the index (Col. 2, lines 41 – 49, McBride[6]), and the degree-scale of precision (Col. 70, lines 61 – 67,

[5] Examiner interprets: containing different points drawn in Fig. 3, McBride, implies overlapping the gridding.
[6] Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed.

Enomoto[7]). However, the combination of McBride in view of Agrawal and further in view of Enomoto does not expressly disclose a specific formula for mapping this information to the index. On the other hand, Na discloses: location entity's coordinates in latitude (lat) and longitude (long) mapped to the index by $I = (360 / r) [(lat + 90) / r] +[(long + 180) / r]$ where r is the degree-scale of precision, and I maps the coordinates to the location entity (Page 7, lines 6 – 8, 23 – 25, and 43 – 46, Na). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Na's teachings to the system of the combination of McBride in view of Agrawal and further in view of Enomoto. Skilled artisan would have been motivated to do so, as suggested by Na (Page 11, lines 43 – 48, Na), to manage map data involving maps of various scales via a formalized index structure and a hierarchical structure, thus the size of the index file can be minimized and the search of the map data can be simply performed via simple calculation and a map database efficiently constructed. In addition, the applied references (McBride, Agrawal, Enomoto, and Na) teach features that are directed to analogous art and they are directed to the same field of endeavor, such as, database management systems, global positioning systems, latitude, longitude measurements, and indexing locations. This close relation between the applied references highly suggests an expectation of success. In addition, examiner takes in consideration that this step would have been obvious because it is the only way to geometrically calculate the index in degrees when utilizing inputs, such as, latitude, longitude, and radius of the earth.

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[7] Wherein examiner interprets the resolutions as the degree-scale of precision claimed.

Regarding Claims 20, the combination of McBride, in view of Agrawal, in view Enomoto, and further in view of Na discloses a computer-implemented process wherein to recover the latitude and longitude values, the latitude (lat) and longitude (long) is calculated as:

$lat = lr^2 / 360 - 90 + r / 2$ (Col. 2, lines 41 – 49, McBride[8]; and Page 7, lines 11 – 15, Na),

$long = l \% r / 360 - 180 + r / 2$ (Col. 2, lines 41 – 49, McBride[9]; and Page 7, lines 17 – 21, Na),

where *r* is the degree-scale of precision, *l* maps the coordinates to the location entity, and % is the modulus operator.

[8] Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed. This formula represents a procedure to geometrically calculate the latitude and longitude utilizing the index discussed above.
[9] Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed. This formula represents a procedure to geometrically calculate the latitude and longitude utilizing the index discussed above.

(10) Response to Argument

A. Whether claims 1 – 6, 14 – 18, 21, 22, 26, 27, 29, and 30 are obvious over US Patent No. 6,370,476 to McBride ("McBride") in view of US Patent No. 5,647,058 Agrawal et al. ("Agrawal").

Appellant argues that; "McBride does not teach or suggest the claimed 'one-dimensional grid index series'...", and further that; "a 'one-dimensional grid index series' expresses, as a one-dimensional entity (e.g., a vector rather than a matrix)...".

Examiner respectfully disagrees. First, Appellant cannot show non-obviousness by attacking references individually where, as here, the rejections are based on a combination of references. **In re** Keller, 208 USPQ 871 (CCPA 1981).

Second, the combination of McBride in view of Agrawal does disclose one-dimensional grid index series (Fig. 3, Col. 8, lines 38 – 41, "defined on a two-dimensional surface..."; McBride) wherein each location entity is represented as a series of grids that incorporate the location of each location entity (Col. 3, lines 57 – 67, "**A grid G of spaced apart points** P *m,G*, with corresponding location coordinates (X *m,G*, Y *m,G*, Z *m,G*) (m=1, 2, . . . , M), is first imposed on the survey region SR in the first datum, as illustrated in FIG. 3. ... Two nearest survey control sets, such as NSC *m*1 and NSC *m*2, may contain different points drawn from the survey control point set, based on the locations of the corresponding grid points p.sub.m1, G and p.sub.m2, G

relative to the survey control points....”; and Col. 4, lines 32- 33 “where the (positive) exponent q*m* and/or the coefficients C *x,m*, C *y,m*, C *z,m* **may vary with the grid point index m**. Further, the number of survey control points, P *SC-n*, **in a grid point set** NSC *m*, defined...”, and 40 – 44, “**Allowing the quantities q *m*, C *x,m*, C *y,m* and C *z,m* to vary with the grid point index m allows different weights or sensitivities to be assigned to different grid points, depending upon the location of such point**...”, McBride) as claimed. As well known in the art, a two dimensional index that includes x, y coordinates (as disclosed in Col. 8, lines 38 – 41, McBride) becomes a one dimensional entity if any of the coordinates x or y is 0 (For example; [x,0] and [0, y] are one dimensional. Similarly a three-dimensional [x,y,z] becomes [x, 0, 0], [0, y, 0], or [0, 0, z]). Examiner notes that appellant's specification (Page 3) defines the grid index as an n-dimensional space (Examiner notes that n-dimensional space as well known in the art includes one, two, three, or multidimensional). Additionally, Examiner makes note that Agrawal also teaches such claimed limitation (See, Col. 5, lines 38 – 41, “N-dimensional”, Agrawal).

B. Whether claims 7, 8, and 28 are obvious over McBride in view of Agrawal and US Patent No. 6,603,885 to Enomoto (“Enomoto”).

Appellant's arguments directed towards the rejection of claims 7, 8, and 28 reiterate deficiencies Appellant feels were made in the rejection of the independent claims, and do not address any new points. Therefore, the examiner submits that if the

rejection of the independent claims is deemed proper, the rejection of claims 7, 8, and 28 should also upheld.

C. Whether claims 9 – 13 are obvious over McBride in view of Agrawal, Enomoto, and US Patent No. 6,333,924 to Porcelli et al. ("Porcelli").

Appellant's arguments directed towards the rejection of claims 9, 12, and 13 reiterate deficiencies Appellant feels were made in the rejection of the independent claims, and do not address any new points. Therefore, the examiner submits that if the rejection of the independent claims is deemed proper, the rejection of claims 7, 8, and 28 should also upheld.

Furthermore, in response to Appellant's arguments that; "Porcelli does not teach or suggest the equations recited in either claim 10 or claim 11", the arguments were fully considered but were not deemed persuasive.

First, Appellant cannot show non-obviousness by attacking references individually where, as here, the rejections are based on a combination of references. **In re** Keller, 208 USPQ 871 (CCPA 1981). Second, the mathematical equations recited in claims 10 and 11 constitute "non functional descriptive material" and are not accorded patentable weight. Non-functional descriptive material refers to data content that does not show a functional interrelationship with the substrate and does not have an effect on the way the computing processes are performed. See MPEP 2106.01. "When 'non functional descriptive material' is recorded or stored in a memory or other medium

(substrate) it is treated as analogous to printed matter cases where what is printed on a substrate bears no functional relationship to the substrate and is given no patentable weight." *See In re Gulack*, 703 F. 2d 1381, 1385 (Fed. Cir. 1983). *See also Ex Parte Curry*, 84 USPQ2d1272 (BPAI 2005) (nonprecedential) (Federal Circuit Appeal No. 2006-1003 *aff'd* Rule 36 Jun. 12, 2006). See In re *Lowry*, 32 F.3d 1579, 582-83 (Fed. Cir. 1994); In re Ngai, 367 F.3d 1336, 1338 (Fed. Cir. 2004). *See also Ex parte Nehls*, *http://www.uspto.gov/web/offices/bpai/prec/fd071823.pdf* (BPAI Jan. 28, 2008); *Ex parte Mathias*, 84 USPQ2d 1276 (BPAI 2005) (nonprecedential) (191 Fed.Appx. 959 ("ed. Cir. 2006)).

For the sake of argument, the combination McBride/Agrawal/Enomoto/Porcelli does disclose the limitations of claim 10, including: a computer-implemented process wherein the longitudinal span in degrees that 3σ meters corresponds to is $d=[180(3\sigma)\cos(\text{latitude})]/k\pi$ is determined, where k is the circumference of the earth in meters (See for example, Col. 8, lines 27 – 32, Porcelli); and the limitations of claim 11 including: a computer-implemented process wherein the process action of determining the degree-scale of precision, R, to be the discrete unit of resolution just larger than D comprises setting $r = |\log_2 d/20|$ (Col. 70, lines 61 – 67, Enomoto).

D. Whether claims 19 and 20 are obvious over McBride in view of Agrawal, Enomoto, and European Patent Application EP 838 764 A2 to Na ("Na").

In response to Appellant's arguments that; "Na does not teach the equations recited in either claim 19 or claim 20", the arguments were fully considered but were not deemed persuasive.

First, Appellant cannot show non-obviousness by attacking references individually where, as here, the rejections are based on a combination of references. **In re** Keller, 208 USPQ 871 (CCPA 1981). Second, the mathematical equations recited in claims 19 and 20 constitute "non functional descriptive material" and is not accorded patentable weight. Non-functional descriptive material refers to data content that does not show a functional interrelationship with the substrate and does not have an effect on the way the computing processes are performed. See MPEP 2106.01. "When 'non functional descriptive material' is recorded or stored in a memory or other medium (substrate) it is treated as analogous to printed matter cases where what is printed on a substrate bears no functional relationship to the substrate and is given no patentable weight." *See In re Gulack*, 703 F. 2d 1381, 1385 (Fed. Cir. 1983). *See also Ex Parte Curry*, 84 USPQ2d1272 (BPAI 2005) (nonprecedential) (Federal Circuit Appeal No. 2006-1003 *aff'd* Rule 36 Jun. 12, 2006). See In re *Lowry*, 32 F.3d 1579, 582-83 (Fed. Cir. 1994); In re Ngai, 367 F.3d 1336, 1338 (Fed. Cir. 2004). *See also Ex parte Nehls, http://www.uspto.gov/web/offices/bpai/prec/fd071823.pdf* (BPAI Jan. 28, 2008); *Ex parte*

Mathias, 84 USPQ2d 1276 (BPAI 2005) (nonprecedential) (191 Fed.Appx. 959 ("ed. Cir. 2006)).

For the sake of argument, the combination McBride/Agrawal/Enomoto/Na does disclose the limitations of claim 19 including: a computer-implemented process wherein the location entity's coordinates in latitude (lat) and longitude (long) is mapped to the index (Col. 2, lines 41 – 49; Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed; McBride) by *I* = (360 / *r*) [(lat + 90) / *r*] +[(long + 180) / *r*] where *r* is the degree-scale of precision, and *I* maps the coordinates to the location entity (Col. 70, lines 61 – 67; Wherein examiner interprets the resolutions as the degree-scale of precision claimed; Enomoto; and also see Page 7, lines 6 – 8, 23 – 25, and 43 – 46, Na); and the limitations of claim 20 including: a computer-implemented process wherein to recover the latitude and longitude values, the latitude (lat) and longitude (long) is calculated as:

lat = Ir^2 / 360 - 90 + r / 2 (Col. 2, lines 41 – 49; Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed. This formula represents a procedure to geometrically calculate the latitude and longitude utilizing the index discussed above; McBride; and also see Page 7, lines 11 – 15, Na),

long = *I* % r / 360 - 180 + r / 2 (Col. 2, lines 41 – 49; Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed. This formula represents a procedure to geometrically calculate the

latitude and longitude utilizing the index discussed above; McBride; and also see Page 7, lines 17 – 21, Na),

where *r* is the degree-scale of precision, *l* maps the coordinates to the location entity, and % is the modulus operator.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section **(9)** above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

/Giovanna Colan/

Examiner, Art Unit 2162

A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:

Conferees:

/John Breene/

Supervisory Patent Examiner, Art Unit 2162

Jack Harvey

Jack B. Harvey, Director
Technology Center 2100

Vincent Millin, SPRE
TC 2100

An appeal conference was held on 06 May 2008, and it was agreed to proceed to the board of appeals.